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10/589,977	08/18/2006	John David Wilson	03220.002005	2466

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EXAMINER	
SHABMAN, MARK A	
ART UNIT	PAPER NUMBER
2856	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/589,977	WILSON, JOHN DAVID	
	Examiner	Art Unit	
	MARK SHABMAN	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☒ Claim(s) *19-21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/19/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 recites the limitation "the liquid bath" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the tool" in line 7. There is insufficient antecedent basis for this limitation in the claim. The claim will be examined as if “tool” is read -blade-.

Claim 8 recites the limitation "the tool" in line 3. There is insufficient antecedent basis for this limitation in the claim. The claim will be examined as if “tool” is read -cutter-.

Claim 16 recites the limitations "A core splitter" and “the water” in lines 1 and 2 respectively. There is insufficient antecedent basis for these limitations in the claims. It appears as if claim 16 should be dependent on claim 4 and will be examined as such. Further "the water" is assumed to be the liquid previously disclosed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rigley GB 2,235,154 A (hereinafter referred to as Rigley) in view of Cymbalisty US Patent 4,372,174 (hereinafter referred to as Cymbalisty).

Regarding **claim 1**, Cymbalisty discloses a method and apparatus for sampling a core of tar sand in which a core is cut along its length by a moving cutter. Column 1 describes the apparatus as comprising a cradle means carried by a frame means for supporting and holding the slab (sample) in place while it is cut by cutting means 9 as seen in figure 3. The sample is held in place by members 3, 4 and 5 and the saw is moved relative to the core sample to cut it. Cymbalisty does not disclose placing the sample in a liquid bath while it is cut.

Rigley discloses a sawing apparatus and its method of use in for cutting of concrete beams. The beams are submersed in a fluid bath prior to their being cut by a sawing member which is movable along a path in which the member to be sawn has been placed. Rigley does not specifically discloses the intended use of sawing a core sample, however would be more than capable of doing so with the same components.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the core cutting method of Cymbalisty with that of Rigley to allow for the sample to be cut while immersed in a liquid, thus reducing noise and dust while further cooling the blade doing the cutting as described in page 2 paragraph 2 of Rigley.

Regarding **claim 2**, the method of operation of Cymbalisty describes the holding member as being fixed to the frame and the saw moving relative to said holding member.

Regarding **claim 3**, the saws of both Cymbalisty and Rigley are of a rotary type as claimed.

Regarding **claim 4**, Cymbalisty discloses an apparatus for cutting a core sample of tar sand in which a “core support device” exists in stationary cradle 3 of figure 3 which holds the sample while it is being cut. A cutting head in the saw carriage 8 which holds a circular saw exists for cutting the sample lengthwise, or "along radial planes into two or more parts" as claimed. Cymbalisty does not disclose a fluid bath or trough in which the core sample is located during cutting along with the core support device.

Rigley discloses a sawing apparatus for cutting concrete beams for example which uses a circular saw to move across a sample work which is disposed in a liquid bath or trough during cutting. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the cutting apparatus of Cymbalisty with the trough of Rigley to allow reduce noise and dust while simultaneously cooling the blade to avoid cracking during the cutting of a core sample.

Regarding **claim 5**, Rigley does not specifically describe the fluid bath as "watertight" as claimed. However, it would have been obvious to one of ordinary skill in the art at the time of invention to seal the bath entirely to help prevent any excess dust, heat or noise from affecting the cutting process of the core sample. Further, if the core sample was within the "support device" as claimed, it too would be located below the surface of the water in order to ensure the core itself was covered entirely.

Regarding **claim 6**, the cutting head of Cymbalisty runs along a pair of horizontal shafts 208 or “linear bearing means” which when combined with the trough of Rigley would be "longitudinal" of said trough.

Regarding **claim 7**, the shafts 208 of Cymbalisty are located above the work to be cut, thus if said work was located within the bath of Rigley as previously described, the shafts would be “located above the level of the trough” as well.

Regarding **claim 8**, the apparatus of Cymbalisty does not comprise "roller means" for movement along the "linear bearing means" as claimed. However, as rollers are commonly used as a means to reduce friction between two interacting parts, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute rollers, attached to the "cradle" 8 of Cymbalisty to allow for a smooth movement of the cutting head through the core sample. The "cradle" 8 further comprises a motor 19 which would be obvious to make of an electric type as motor 14 is also electric. A “rotatable tool” 9 in the form of a blade is used to cut the sample and driven by motor 19 as claimed. Cymbalisty discloses a suction nozzle 216 in figure 6

covering the tools 215 which reads on the "cowling within which the tool is contained" as it covers the tool.

Regarding **claim 9**, the purpose of the suction nozzle in figure 6 of Cymbalisty is to remove dust from the cut piece. In the embodiment where a trough is located below the tool, such as that previously discussed with regards to Cymbalisty and Rigley, the need for a suction nozzle is minimal as the dust is collected in the water bath. However, it still would have been obvious to cover up the top of the cutting tool with a nozzle to help contain the water in the trough and prevent it from leaving the fluid bath which could lead to greater dust, noise and heat generation.

Regarding **claim 10**, Cymbalisty discloses cradle means 3 for securing the core sample in place during operation. There further exists vertically movable brackets 204 which allow for the sample to be positioned vertically or “relative to the cutting tool" as claimed.

Regarding **claim 11**, Cymbalisty teaches supporting the work by use of a cradle and brackets 204 of figure 4b. The brackets are comprise angled portions to accommodate the round sample to be cut. Examiner takes official notice that it is common in the art to use vice jaws to hold work pieces of various sizes steady while cutting or machining them and therefore would have been obvious to one of ordinary skill in the art at the time of invention to do likewise by implementing a vice type grip such as that described in the claim, by adjusting the inclined portions of the brackets

and moving them towards or away from one another, thereby also capable of raising or lowering the sample if desired as well.

Regarding **claim 12**, as mentioned, there exist vices and other support structures comprising a threaded member which, when rotated, causes two "support members" to move towards or away from one another. Such vices comprise "bores" which a threaded bolt fits through allowing such manipulation.

Regarding **claim 13**, it would have been obvious to one of ordinary skill in the art at the time of invention to manipulate the two support members simultaneously since they would be clamping or supporting a sample with an approximately constant diameter throughout and this would remove the need for performing the same operation of adjustment twice.

Regarding **claim 14**, rotation of two separate parts by means of a belt and pulley is a known process in which one turning element simultaneously turns another element at a 1:1 ratio. Therefore, it would have been obvious to one of ordinary skill in the art to use such a belt system to rotate the bolts as needed simultaneously.

Regarding **claim 15**, Cymbalist teaches the method of moving the head along the length of the trough, wherein the trough is located below the work in the cutting direction as previously discussed. Examiner takes official notice that moving a member via a screw member and a nut carried by the head is commonly used in devices such as drill presses, vice jaws etc. and therefore would have been obvious to use to move the saw head as well since turning of the screw can be accomplished a safe distance from the saw blade.

Regarding **claim 16**, the apparatus of Rigley contains a fluid storage tank 100 which comprises a settling portion 108 for receiving the cutting portions of the work as claimed. It would have been obvious to one of ordinary skill in the art at the time of invention to include a settling portion such as this to allow for the shavings of the work (i.e. dust) to collect for removal as described in page 2.

Regarding **claim 17**, given the embodiment of Cymbalisty, it would have been obvious to one of ordinary skill in the art at the time of invention to locate the settling tank below the trough as it would allow for the shavings cut to fall directly into it due to gravity. Further, it would have been obvious to locate the tank at a single end of the trough so that all of the shavings could be collected together either by slanting the trough towards that end or moving the water in that direction.

Regarding **claim 18**, the tank 100 of Rigley comprises the settling portion and means for circulating the water through the system, thus moving the cut pieces of the work to the settling portion. It would have been obvious to one of ordinary skill in the art at the time of invention to move the “sludge” that is collected in the settling portion to another tank eventually to allow for more sludge to be collected as more samples are cut.

Allowable Subject Matter

Claims 19-21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK SHABMAN whose telephone number is (571)270-3263. The examiner can normally be reached on M-F 7:30am - 5:00pm, EST (Alternating Fridays Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. S./
Examiner, Art Unit 2856

/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856